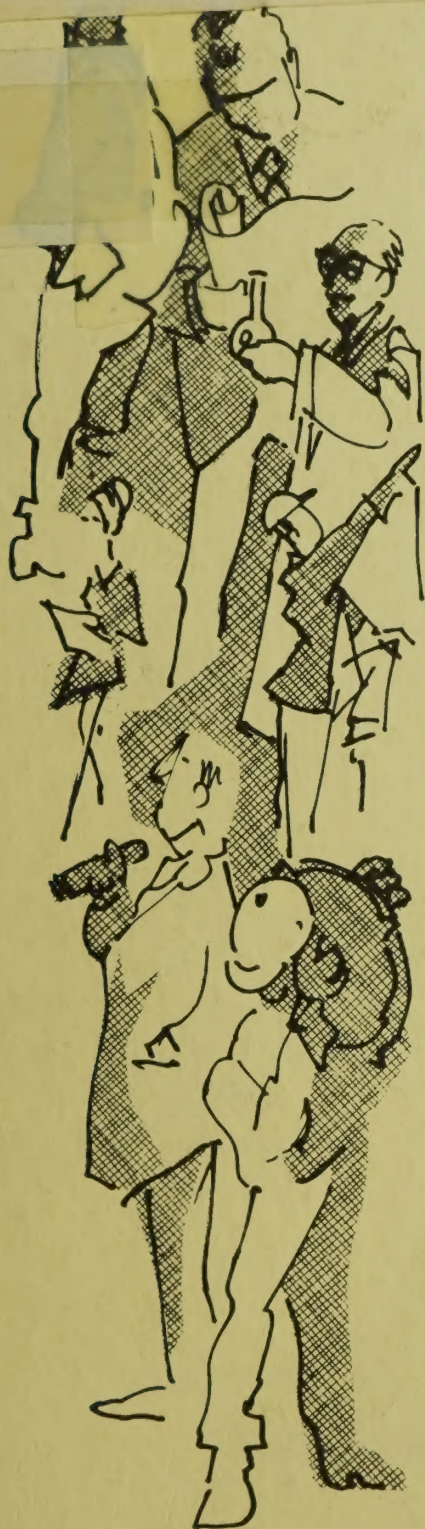


CA40NHBLQ60
69M17



Sep. 1969

MANUFACTURING SURVEY

HAMILTON PUBLIC LIBRARY

NOV 11 1969

GOVERNMENT DOCUMENTS

City of Hamilton
Planning Department
Hamilton Ontario

MANUFACTURING SURVEY REPORT

CITY OF HAMILTON PLANNING DEPARTMENT
SEPTEMBER 1969

His Worship the Mayor and Chairman of the Board of Control

VICTOR K. COPPS

Board of Control

A. H. JONES J. A. MACDONALD J. E. CAMPBELL W. J. FOLEY

City Council

J. D. MCKEON	A. J. POLONIATO	D. T. LAWRENCE	R. W. FORD
G. M. MORROW	W. F. SCANDLAN	J. C. CUSTEAU	J. STOWE
V. J. AGRO	W. POWELL	R. WHEELER	J. A. BETHUNE
W. J. MCCULLOCH	J. T. KOSTYK	F. A. LOMBARDO	J. MACDONALD

Chairman of the Planning Board

J. S. MILLAR Q.C.

Planning Board

F. LONG	S. I. FARWELL	D. TESSARO	J. MACDONALD
J. F. AGRO	B. LOWE	J. D. MCKEON	W. J. FOLEY

Commissioner of Planning and Secretary-Treasurer of the Planning Board

R. BAILEY

Administration	Planning Control	Current Planning	Future Planning	Drafting
J. C. FAULKNER	J. W. WEST	T. RAMIREZ	O. C. A. LANGMARK	F. G. WHITE
K. PALMER	J. J. HALBLANDER	V. J. ABRAHAM	M. J. CHENG	E. DABOLINS
D. MEEBOER	A. ZEUNER	M. PLAVNIEKS	L. J. LANZA	N. HOSTIUC
J. GRANT	M. KRAFT	W. C. NICHOLL	A. P. HAMMER	S. MILOSEVIC
L. GALLAGHER		G. GROPPER	B. J. KLOTZ	W. C. CHAN
			J. A. MARSHALL	G. W. DUMBLETON
				A. GLAZEBROOK
				A. MARCOLINI
				A. PASSARELLI
				E. COLOMA
				S. C. LAU
				K. WILLECKE-AHRENS
				P. WEISNER

Director of Purchases
Deputy Director of Purchases

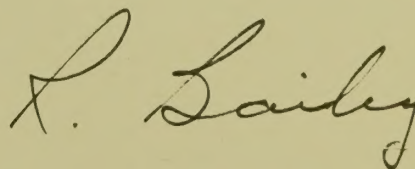
J. W. McNAB
T. BRADLEY

ACKNOWLEDGEMENT

This report is based on a sample survey conducted by the Planning Department during the summer of 1969 in co-operation with the ECONOMIC DEVELOPMENT COMMISSION--J.H. Moore, Economic Development Commissioner, and A.L. Patterson, Industrial Commissioner; and the CHAMBER OF COMMERCE--B.W. Gillespie, General Manager. Of the contributors to this survey, Mr. Gillespie and his staff deserve special mention for arranging interviews with company executives.

The success of the study, however, depended on the interest and co-operation of COMPANY EXECUTIVES participating in the survey. We thank the many executives for devoting time to the study.

Although the PLANNING DEPARTMENT received assistance from many sources it is solely responsible for the manner in which the survey was conducted and for the conclusions derived from the data.

A handwritten signature in cursive script, reading "R. Bailey". The signature is written in dark ink and is positioned above the printed name and title.

R. Bailey, M.T.P.I.C., P. Eng.
Commissioner of Planning and
Secretary-Treasurer of the
Hamilton Planning Board

Members of the Planning Department that contributed to the study

R. BAILEY
Commissioner of Planning and Secretary-
Treasurer of the Planning Board

O. LANGMARK
Head, Future Planning Section

A.P. HAMMER
Planner in charge

S. LAU
Data Compilation

R. GADOURY
Interviews

J. EDWARDS
Interviews

D. MEEBOER
Typing

TABLE OF CONTENTS

PURPOSE OF THE SURVEY	2
Objectives	2
Method	2
INTERPRETATION OF DATA	4
Historical Data	4
Attitudes Regarding Plan	
Location Factors	5
Manufacturing Plan Mobility	7
Transportation	8
Markets and Sales Data	10
CONCLUSION	12
TABULATION OF INTERVIEW DATA	14
APPENDIX	31
Interview Procedure	32
Industrial Survey Questionnaire	38

LIST OF TABLES

TABLE NUMBER		PAGE
1	Head Office Location	15
2	Date of Establishment in Hamilton	15
3	Reasons for Locating in Hamilton	16
4	Site Advantages	17
5	Site Disadvantages	18
6	Advantages of Hamilton Location	19
7	Disadvantages of Hamilton Location	20
8	Manufacturing Industry Location Demands	21
9	Possibility of Relocating Plant	22
10	Relocation Date	22
11	Place of New Location	23
12	Advantages of New Location	24
13	Automobile Ridership	25
14	Present Transportation System is a Constraint to Plant's Operation	26
15	Road Constraints	26
16	Transportation Modes - Inputs	27
17	Transportation Modes - Outputs	28
18	Market Distribution of Manufacturing Plants ..	29
19	Sales Distribution of Manufacturing Plants	30
20	Hamilton Manufacturing Employment - 1968 ..	33
21	Manufacturing Employment of Plants with less than 1000 Employees - 1968	34
22	Interviewed Proportion of Plants with less than 1000 Employees - 1968	35
23	Interviewed Firms with more than 1000 Employees - 1968	36
24	Manufacturing Employment Change 1961-1968	37

PURPOSE OF THE SURVEY

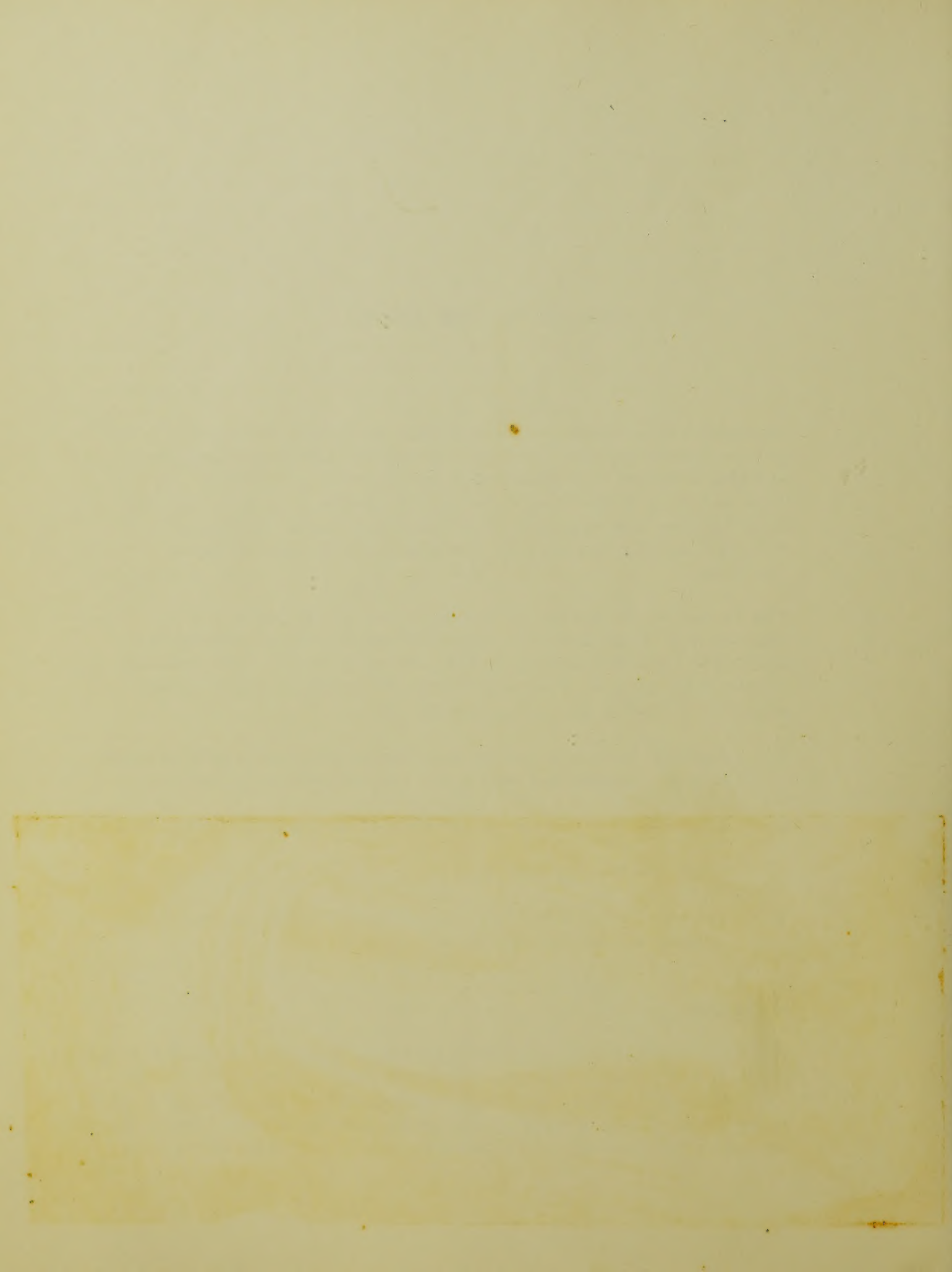
The purpose for conducting a manufacturing plant survey is to gain an insight into the aspatial and spatial "behaviour" patterns and characteristics of Hamilton's manufacturing industry. An understanding of the manufacturing industry's attitudes regarding their function and operation in the Hamilton urban structure is essential for the formulation of a meaningful Industrial Land Use Plan.

The format of the survey questionnaire is in five parts - Introduction; Transportation; Building and Facilities; Historical Data and Location Factors; and Industrial Mobility. The questions constituting these sections are designed to provide some answers about the following plant characteristics:

1. Attitudes of industrialists to a Hamilton location with respect to cost, market and non-pecuniary or community factors;
2. Location, site, and land demands of the manufacturing industry;
3. Sales and market data; and
4. Transportation requirements and accessibility of manufacturing to local and outside markets.

METHODS

Since the study is concerned with attitudes, opinions and considerations which underly transportation, site conditions, location factors etc. it is often difficult to obtain meaningful measurements of attitudes of business executives. There always is the danger that satisfactory developments are taken for granted, while complaints are forcefully expressed.



The survey was performed by means of a mail questionnaire and supplementary personal interview questionnaire. Mail questionnaires were forwarded to top plant executives. Upon acknowledgment of the receipt of the mail questionnaire trained field workers performed a "follow-up" personal interview. This procedure was used to minimize the time required to gather information.

Two groups of manufacturing plants were represented in the survey; 82 plants constitute the group of plants with 1000 employees or less and the second group of 6 firms employ more than 1000 workers each. The survey was primarily designed to deal with plants having less than 1000 employees. Information regarding their role in Hamilton's industrial community is scarce. Unlike the large manufacturing firms these companies do not publish annual reports and news letters that shed light on factors affecting the performance of their operation in the Hamilton context.

The 82 plant sample is designed to be representative of all manufacturing plants with 1000 or less employees. The probability that a plant is selected is proportional to the number of plants and employees in a manufacturing category.

Results from the survey of manufacturing firms with more than 1000 employees are not published in this report. The information gathered from these firms is limited to employment, transportation and market data which does not lend itself to generalization because of the small number of firms involved. Nevertheless, the information that was gathered will be helpful to the Planning Department in the preparation of employment projections and manufacturing land demands.

TEXT ADDENDUM

To avoid misinterpreting the percentages calculated in the tables or used in the text, please note that only positive responses to the questions in the survey questionnaire are tabulated.

e. g. In the text a statement such as "..... 50% or less" includes only positive values and excludes 0.

The use of "<10%" in the tables includes only positive values and not 0.

INTERPRETATION OF DATA

HISTORICAL DATA

Of the 78 manufacturing plants and firms that responded to the question pertaining to head office location 71% indicated Hamilton (Table 1). This high proportion of Hamilton based plants is partially explained by subsequent questions regarding the foundation date and reasons for locating in Hamilton. Many of the plants date back to the first two decades of the century when Hamilton had many industrial location advantages. In the survey 63% of the plants were established before 1940 and only 16% of the sample located here in the past 15 years (Table 2).

Reasons for locating in Hamilton were more difficult to determine. Fifty-nine per cent of the respondents indicated that the founder was of "local origin". Another 27% listed the proximity to markets as a main location factor (Table 3). From these answers one may infer that the presence of the steel industry, textile mills, and electrical industry afforded many opportunities for the growth of ancillary manufacturing plants.

In response to the question pertaining to site advantages, 27% of the plants mentioned "Proximity to Other Manufacturers" as an advantage of their site (Table 4). This is an important cost factor that manufacturing establishments consider in determining a suitable location. Agglomeration economies and attendant backward and forward linkages among manufacturing plants is a major advantage of a Hamilton location.

ATTITUDES REGARDING PLANT LOCATION FACTORS

Ideally, every location decision is a matter of balancing anticipated costs and receipts under different degrees of uncertainty. The differential advantages of possible locations at any time have their roots in three broad categories of costs:

- 1) Input Costs: labour, materials, municipal services, fuel, land, taxes, etc.
- 2) Transport Costs: the price of a composite input of services necessary to move labour, materials, and products
- 3) Plant Economies: these are a set of relatively localized scale economies that may be (a) "internal" to the firm or plant, (b) "external" to the industry at a particular location

Among these sources of cost differentials those having to do with distances, and labour were adduced most frequently in the survey. Seventy-on per cent of the plants indicated that "Proximity to Markets" is a locational advantage of Hamilton. The availability of "Transportation Facilities" - Road, Railway, and Harbour facilities - is another distance related location advantage. Skilled labour is the third factor that 25% of the plants considered as a location advantage (Table 6). The traditional role of Hamilton as a manufacturing city has fostered the growth of a labour market geared to the demands of industry.

Cost factors cited most frequently as a disadvantage of a Hamilton location relate significantly to labour. As shown in Table 4, 46 per cent of the plants indicated that labour costs are a constraint to their operation. The "Dominance of the Steel Industry" and "Pressure of Organized Labour" are considered disadvantages of Hamilton. The

negative response to labour cost factors was mainly by smaller plants and/or manufacturers producing goods of relatively low gross output value. The dominance of the labour market by the primary steel industry, metal product manufacturing industry, and the electrical industry makes it difficult for lower wage manufacturing plants to compete for skilled labour.

MANUFACTURING INDUSTRY LOCATION DEMANDS

The question regarding location factors manufacturing plants consider most important in location decisions received a 100 per cent response. From the plants interviewed location factors may be ordered according to frequency of response (Table 8).

Location Factor	Percent Response
Labour	58
Markets	52
Materials	42
Land	33
Transportation Accessibility	25

Plant executives deciding on a suitable location generally try to match their location demands with the location inputs offered by alternative geographical points. This of course involves the weighing of a number of cost factors in combination. When potential savings from a move outweigh the additional costs entailed, net revenue is enlarged and the rational entrepreneur will make the move to a new location. In the above ranking of location factors it should be noted that, although the Transportation Accessibility Factor ranks fifth it is inextricably linked with Market and Material factors. It was found that manufacturers take "Transportation Accessibility" for granted in many cases when they indicate proximity to Markets or Materials as important location criterion.

MANUFACTURING PLANT MOBILITY

Of 77 plants that answered the question regarding possible relocation to another site 31% indicated a future move (Table 9). This rather high percentage of possible relocations may be biased by the suggestive power of this type of question. Nevertheless, some plants had definite plans for moving to another location.

As indicated in Table 11 twenty-five percent of the plants contemplating a move chose a site in Hamilton. However 50% chose sites in Metropolitan Hamilton - Burlington and Saltfleet - as desirable locations.

In most cases the reasons for moving, especially plants relocating to Metropolitan Hamilton sites, are not so much attributable to "macro" location factors as to the present site conditions. The most frequent responses to the question regarding disadvantages of present sites are in the order of (a) Lack of space for expansion, (b) Conflict with nearby land uses, (c) Shortage of parking space, and (d) Poor accessibility to transportation facilities (Table 5). It appears that the necessity to move a plant is triggered by constraints in site conditions that interfere with the operation of the enterprise. Plants may find that their location demands are no longer satisfied by Hamilton's location inputs. However, the issue of relocation is not forced unless site and/or building conditions are detrimental to the plant's competitive advantage.

TRANSPORTATION

Transportation costs incurred by manufacturers are indirectly examined by (a) the space utilized for employee car parking (b) transportation system constraints and (c) transportation modes used to convey inputs and outputs.

From the survey results it becomes evident that public transportation modes convey only a small percentage of the manufacturing employees to their place of work. Seventy percent of the plants interviewed indicated that 70% or more of the employees travel by private automobiles either as drivers or passengers (Table 13). From the high percentage of automobile ridership one may infer that the public transportation service is inadequate. The lack of a good public transportation system was mentioned in a number of cases as a constraint to the plant's operation. Particularly plants utilizing female employees indicated that suitable help is often difficult to get because of inadequate public transportation service.

Forty-six percent of the responding manufacturing plants found that the present Hamilton transportation system--roads, rail, harbour--is a constraint to the plant's functioning. Of the plants that criticized the road system 68% listed "Poor intra-city traffic circulation" and 47% mentioned "Poorly maintained roads" (Table 15). Transportation constraints are additional costs that have to be absorbed by the plant and/or added to the delivered prices of manufactured materials.

TRANSPORTATION MODES

Analysis of the aggregate percentage breakdown of transportation modes used in hauling of plant inputs and outputs revealed that trucking is by far the main means of transportation.

Input

Of the 71 plants that answered this question 75% indicated that 80% or more of their input arrives by truck. Another 34% have 20% or less of their input carried by rail (Table 16).

Output

Two significant percentage clusters of goods carried by various modes are evident in the Output Matrix (Table 17). Of the plants interviewed 81% have 80% or more of the output delivered by truck, and 35% of the plants indicated that 10% or less of their output is transported by rail.

MARKET AND SALES DATA

MARKETS

In the aggregate, the distribution of markets is fairly evenly spread among the metropolitan areas of Hamilton and Toronto and the rest of Ontario. The breakdown of the market areas is as follows:
(Table 18)

- (1) 74% of the plants have 50% or less of their market in Metro Hamilton;
- (2) 72% of the plants indicated that 50% or less of their market is in Metro Toronto;
- (3) 80% of the plants have 50% or less of their market in the rest of Ontario;
- (4) 35% of the plants have 50% or less of their market outside Canada.

The relative proximity of the market to Hamilton plants explains the emphasis on truck transportation. Fast service and door to door deliveries gives truckers an advantage over other transportation modes.

SALES

Sales by manufacturing firms are evenly distributed among consumers, retailers, and wholesalers (Table 19).

- (1) Consumers receive from 23% of the plants 30% or less of the sales;
- (2) Retailers purchase from 25% of the plants 30% or less of the sales; and
- (3) Wholesalers account for 30% or less of the sales from 24% of the plants.

Sales to "Other manufacturing" plants are polarizes in two clusters. Twenty-nine percent of the plants sell 30% or less of their output to other manufacturing plants and another cluster constituting 29% of the interviewed plants sell 70% and more of their output to other manufacturers. The high percentage of sales to other manufacturers and Hamilton's significant share in the total manufacturing market suggests that there are strong backward and forward linkages among Hamilton manufacturers.

CONCLUSION

SUMMARY OF FINDINGS

Concern was expressed by manufacturing executives that Hamilton's locational advantages as a manufacturing centre are diminishing. Factors contributing to the relative decline in location inputs are of external and internal nature.

External Factors

External factors influencing Hamilton's location advantages may be explained in terms of the City's location inputs relative to the location inputs of other urban centres in the regional, provincial, and national space-economy. Hamilton's location inputs are affected by such parameters as:

1. Shift in markets
2. Changes in the transportation technology
3. The relative impact and distribution of labour pressures
4. Changes in plant marketing and distribution policies
5. Changing locational demands by industries,
etc.

Generally, these external factors affecting changes in location inputs of an urban centre and location demands of an industry are beyond local control.

Internal Factors

Internal or local factors influencing the location inputs of Hamilton are to some degree within the ambit of local actions. Many manufacturing executives expressed the following constraints to Hamilton's location inputs.

1. An inadequate supply of accessible industrial land. Expanding industries are often forced to move parts or all of their operation to locations outside Hamilton because there is a limited supply of suitable land available.
2. The City's internal transportation system is a constraint to a plant's successful operation.
 - (a) The road system servicing and linking industrial areas to regional highways does not provide the required accessibility. Especially east-west movement through the City is often cited as a considerable constraint.
 - (b) The public transportation service linking residential areas of the City to industrial areas is inadequate.

RECOMMENDATIONS

1. The successful response to the survey indicates that a comprehensive survey of a larger number of manufacturing establishments may be performed. Particularly a study of inter-industry linkages or flows and their relationship to plant location behaviour would yield useful criteria for urban land use allocations.
2. Surveys of manufacturing plants should include trucking establishments, since most plants contract commodity shipments out. More significant information regarding constraints to truck movement within the City could be obtained by interviewing trucking companies.

TABULATION OF INTERVIEW DATA

TABLE 1 HEAD OFFICE LOCATION

	Number of *	Per Cent **
	Plants	
Hamilton	55	71
Metro Toronto	7	9
Canada	7	9
U.S.A.	8	10
Other	1	1

* 78 Plants responded

** Approximated

TABLE 2 DATE OF ESTABLISHMENT IN HAMILTON

	Number of *	Per Cent **
	Plants	
After 1965	1	1
1961 - 1965	4	5
1956 - 1960	8	10
1951 - 1955	5	16
1940 - 1950	11	14
Before 1940	50	63

* 79 Plants responded

** Approximated

TABLE 3 REASONS FOR LOCATING IN HAMILTON

	Number of *	Per Cent **
	Plants	
Taxes	0	0
Harbour	3	4
Labour Cost	1	1
Industrial Climate	2	3
Municipal Services	2	3
Community Factors	3	4
Proximity to Markets	19	27
Availability of Labour	1	1
Founder of Local Origin	41	59
Local Sources of Finance	1	1
Zoning, other regulations	0	0
Other	9	13

* 70 Plants responded

** Approximated

TABLE 4 SITE ADVANTAGES

	Number of Plants *	Per Cent **
Land Cost	4	6
Central Location	7	10
Adequate Parking	5	7
Proximity to Services	2	3
Accessibility to Labour	6	9
Good Access to Buildings	0	0
Proper Loading Facilities	2	3
Proximity to other Manufacturers	16	24
Access to Transportation Systems ...	38	57
Availability of Space for Expansion...	8	12
Good Layout and Control of Industrial Area	3	4

* 67 Plants responded

** Approximated

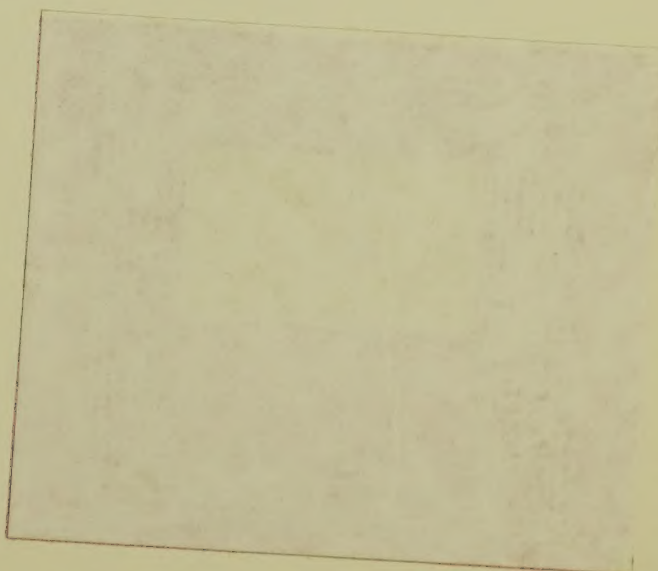


TABLE 5 SITE DISADVANTAGES

	Number of * Plants	Per Cent **
Land Cost	3	6
Poor Access to Buildings	5	9
Shortage of Parking Space	10	19
Lack of Space for Expansion	24	45
Inadequate Loading Facilities	5	9
Conflict with Nearby Land Uses	13	25
Air Pollution or other Noxious Effects..	2	4
Poor Accessibility to Transportation ..		
Facilities	10	19
Other	5	9

* 53 Plants responded

** Approximated

TABLE 6 ADVANTAGES OF A HAMILTON LOCATION

	Number of * Plants	Per Cent **
Taxes	0	0
Municipal Services	2	4
Community Relations	5	9
Proximity to Markets	39	71
Proximity to Materials	10	18
Transportation Facilities	13	24
Ambitious Industrial Promotion	1	2
Community Factors - University etc. . .	2	4
Labour - Productivity, Skills, Supply..	14	25
Ancillary Industrial, Manufacturing Services	2	4
Established here, Services and Product know here	6	11

* 55 Plants responded

** Approximated

TABLE 7 DISADVANTAGES OF A HAMILTON LOCATION

	Number of *	Per Cent **
	Plants	
Taxes.....	6	11
Image	2	4
Cost of Land	1	2
Labour Costs	26	46
Community Factors	1	2
Distance from Markets	8	14
No Room for Expansion	8	14
Distance from Materials	2	4
Transportation Facilities	8	14
Bad Community Facilities	2	4
Pollution, Noxious Effects	6	11
Dominance of Steel Industry.....	11	20
Pressure of Organized Labour	11	20

* 56 Plants responded

** Approximated

TABLE 8 MANUFACTURING INDUSTRY LOCATION DEMANDS

	Number of * Plants	Per Cent **
Taxes	9	11
Cost of Land	26	33
Size of Town	7	9
Housing Supply	2	3
Clean Environment	1	1
Municipal Services	14	18
Distance to Markets	41	52
Marketing Facilities	5	6
Recreation Facilities	0	0
Productivity of Workers	3	4
Schools and Playgrounds	0	0
Attitude toward Industry	1	1
Proximity to Raw Materials	8	10
Transportation Accessibility	20	25
Availability of Labour Supply	32	40
Zoning and Other Regulations	1	1
Transportation Facilities to Materials	25	32
Distance to Customers - speed of servicing..	12	15
Distance to Customers - transportation cost.	13	16

* 79 Plants responded

** Approximated

TABLE 9 POSSIBILITY OF RELOCATING PLANT

	Number of * Plants	Per Cent **
Affirmative	24	31
Negative	53	69

* 77 Plants responded

** Approximated

TABLE 10 RELOCATION DATE

	Number of * Plants	Per Cent **
1 year	7	29
2 years	4	17
3 years	3	13
4 years	1	4
5 years	7	29
Over 5 years	2	8

* 24 Plants responded

** Approximated

TABLE 11

PLACE OF NEW LOCATION

	Number of * Plants	Per Cent **
City of Hamilton	6	25
Metro Hamilton	12	50
Metro Toronto	1	4
Other City	2	8
Small Town	2	8
Rural Area	1	4

* 24 Plants responded

** Approximated

TABLE 12 ADVANTAGES OF NEW LOCATION

	Number of *	Per Cent **
	Plants	
Taxes	5	28
Labour Supply	2	11
Labour Productivity	1	6
Municipal Services	0	0
Proximity to Market	5	28
Space for Expansion	14	78
Good Access to Site	2	11
Good Transportation System	5	28
Government Relocation Subsidies ..	0	0
Prestige Building and Location	1	6
Properly Developed Industrial Area	2	11
No Air Pollution or Noxious Influence	0	0

* 18 Plants responded

** Approximated

TABLE 13 AUTOMOBILE RIDERSHIP

Percent Driving	Number of * Plants	Per Cent **
<10	0	0
10	0	0
20	3	4
30	6	8
40	2	3
50	6	8
60	6	8
70	8	11
80	10	13
90	20	27
100	14	19

* 75 Plants responded

** Approximated

TABLE 14 PRESENT TRANSPORTATION SYSTEM
IS A CONSTRAINT TO PLANT'S OPERATION

	Number of *	Per Cent **
	Plants	
Affirmative	34	43
Negative	45	57

* 79 Plants responded

** Approximated

TABLE 15 ROAD CONSTRAINTS

	Number of *	Per Cent **
	Plants	
Poor Traffic Control	1	3
Poorly Maintained Roads	16	47
Inadequate Road Capacity	7	21
Poor intra-city Traffic Circulation	23	68
Poor Access to Provincial Highways	3	9
Traffic Interruptions on Major Roads	7	21

* 34 Plants responded

** Approximated

TABLE 16 TRANSPORTATION MODES - INPUTS

INPUT	TRUCK		RAIL		SHIP	
	Plants*	%	Plants*	%	Plants*	%
<10	1	1	7	10	7	10
10	1	1	9	13	5	7
20	1	1	8	11	0	0
30	1	1	2	3	1	1
40	2	3	4	6	0	0
50	4	6	4	6	1	1
60	4	6	1	1	0	0
70	3	4	1	1	0	0
80	14	20	0	0	1	1
90	8	11	2	3	0	0
100	31	44	0	0	0	0

* 71 Plants responded
Percentages are approximated

TABLE 17 TRANSPORTATION MODES - OUTPUTS

OUTPUTS	TRUCK		RAIL		SHIP	
	Plants*	%	Plants*	%	Plants*	%
<10	0	0	12	17	10	14
10	0	0	13	18	3	4
20	0	1	6	8	0	0
30	0	0	6	8	0	0
40	1	11	3	4	0	0
50	4	6	3	4	0	0
60	5	7	0	0	0	0
70	3	4	0	0	0	0
80	7	10	1	1	0	0
90	24	34	0	0	0	0
100	26	37	0	0	0	0

* 71 Plants responded
Percentages approximated

TABLE 18 MARKET DISTRIBUTIONS OF MANUFACTURING PLANTS

MARKETS %	METRO HAMILTON		METRO TORONTO		REST OF ONTARIO		OUTSIDE CANADA	
	Plants*	%	Plants*	%	Plants*	%	Plants*	%
<10	22	29	7	9	2	3	22	29
10	13	17	13	17	10	13	2	3
20	6	8	13	17	19	25	1	1
30	7	9	16	21	11	14	1	1
40	5	7	4	5	12	16	0	0
50	3	4	2	3	7	9	1	1
60	2	3	3	4	3	4	0	0
70	4	5	1	1	0	0	0	0
80	3	4	0	0	1	1	0	0
90	1	1	0	0	0	0	0	0
100	8	11	0	0	0	0	0	0

* 76 Plants responded
Percentages are approximated

TABLE 19
SALES DISTRIBUTIONS OF MANUFACTURING PLANTS

SALES %	WHOLESALE		RETAIL		CONSUMERS DIRECTLY		BUILDING CONTRS.		GOV'T.		OTHER MFTRS.	
	Plants*	%	Plants*	%	Plants*	%	Plants*	%	Plants*	%	Plants*	%
<10	2	3	8	11	7	9	6	8	12	16	10	13
10	5	7	5	7	6	8	2	3	1	1	5	7
20	7	0	2	3	4	5	5	2	1	1	3	4
30	4	5	3	4	1	1	2	3	0	0	4	5
40	4	5	2	3	0	0	3	4	1	1	2	3
50	1	1	1	1	1	1	1	1	0	0	0	0
60	3	4	0	0	2	3	0	0	0	0	2	3
70	4	5	1	1	1	1	0	0	0	0	2	3
80	2	3	1	1	7	9	1	1	0	0	5	7
90	0	0	2	3	0	0	4	5	2	3	5	7
100	2	3	7	0	2	3	1	1	0	0	9	12

* 76 Plants responded
Percentages are approximated

APPENDIX

INTERVIEW PROCEDURE

THE SAMPLE

The interviewed manufacturing plants with 1000 employees or less were drawn from a stratified sample proportional to the number of plants and employees in each manufacturing category (Table 21). Of the selected 82 sample plants 90% responded to the mail and personal interview questionnaire (Table 22).

METHOD OF INTERVIEWING

The manufacturing plant survey was conducted by means of two questionnaires. A preliminary - mail questionnaire - was designed to gather general plants statistics - information on employment, area, markets, sales, and transportation. The personal interview which followed was more opinion oriented reflecting a plant's executive views on factors affecting the operation of the establishment. The survey was performed on a part time basis by two summer students that had a reasonable understanding of industrial location theory and an aptitude for interviewing.

TABLE 20 HAMILTON MANUFACTURING EMPLOYMENT - 1968

MANUFACTURING CATEGORIES				
	Number of Plants	Per Cent	Employment	Per Cent
Food and Beverage.....	41	9.47	3,742	5.72
Textile and Textile Products.....	31	7.16	3,814	5.85
Printing and Allied Industry.....	38	8.78	817	1.25
Primary Metal.....	2	0.46	24,610	37.65
Metal Products.....	111	25.64	8,979	13.74
Transportation.....	9	2.08	2,298	3.52
Machinery.....	25	5.77	4,954	7.58
Electrical.....	9	2.08	5,664	8.66
Non Metallic.....	43	9.93	3,315	5.07
Chemical.....	35	8.08	2,245	3.43
Other Manufacturing.....	89	20.55	4,936	7.55
TOTAL	433		65,374	

TABLE 21
HAMILTON MANUFACTURING EMPLOYMENT - 1968
(Plants with less than 1000 Employees)

MANUFACTURING CATEGORIES	Number of Plants	Per Cent	Employment	Per Cent
Food and Beverage	41	9.6	3,742	12.6
Textile and Textile Products	31	7.3	3,814	12.9
Printing and Allied Industry	38	8.9	817	2.8
Metal Products	111	26.0	8,979	30.3
Transportation	8	0.2	1,123	3.8
Machinery	24	5.6	1,854	6.3
Electrical	8	0.2	635	2.1
Non Metallic	43	10.1	3,315	11.2
Chemical Products	35	8.2	2,245	7.6
Other Manufacturing	88	20.6	3,136	10.6
TOTAL	427		29,660	

Percentages are approximated

TABLE 22 INTERVIEWED PROPORTION OF PLANTS - 1968
(Plants with Less than 1000 Employees)

MANUFACTURING CATEGORIES	Number of Plants	Employees
Food and Beverage	9	818
Textile and Textile Products	7	1,250
Printing and Allied Products	7	372
Metal Products	22	3,852
Machinery	3	209
Transportation	2	762
Electrical	3	599
Non Metallic	7	723
Chemical	4	1,300
Other Manufacturing	10	920
TOTAL	74	10,805

Sample of Hamilton Manufacturing Industry represent approximately 17% of the total number of manufacturing plants with less than 1000 employees.

Of the 29,660 employees employed by plants with 1000 or less employees approximately 36% are contained in the sample of the 74 plants.

TABLE 23 INTERVIEWED FIRMS WITH MORE
 THAN 1000 EMPLOYEES
 1968

	Employees
Stelco	17, 410
Dofasco.....	7, 200
National Steel Car	1, 175
Canadian Westinghouse	5, 029
International Harvester	3, 100
Firestone Tire & Rubber	1, 907
TOTAL	35, 821

TABLE 24

MANUFACTURING EMPLOYMENT CHANGE
1961, 1965, 1968

MANUFACTURING CATEGORY	EMPLOYMENT 1961	ANNUAL % CHANGE	EMPLOYMENT 1965	ANNUAL % CHANGE	EMPLOYMENT 1968
Food and Beverage	4,554	0.51	4,643	- 7.48	3,742
Textile	2,363	2.52	2,611	13.48	3,814
Printing	718	- 2.38	654	7.70	817
Primary Metal	15,622	4.49	18,625	9.73	24,610
Metal Products	8,141	1.41	8,616	1.37	8,979
Machinery	3,156	9.55	4,522	3.09	4,954
Transportation	2,190	13.55	3,641	-16.57	2,298
Electrical	5,944	- 0.74	5,769	- 0.62	5,664
Non-Metallic	2,833	3.58	3,262	0.53	3,315
Chemical	1,875	4.18	2,209	0.05	2,245
Other	5,921	- 1.09	5,671	- 4.73	4,936
TOTAL	53,317	3.11	60,223	2.80	65,374

Percentage Female

10	10	20	30	40	50	60	70	80	90	100
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

White Collar Employees

10	10	20	30	40	50	60	70	80	90	100
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Blue Collar Employees

10	10	20	30	40	50	60	70	80	90	100
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

9. What is the gross area in acres now utilized by the plant at this site?

< 1	☐	
1 - 5	☐	G.A.
5 - 10	☐	
11 - 20	☐	
21 - 30	☐	
31 - 40	☐	
41 - 50	☐	
51 - 100	☐	
101 - 500	☐	
> 500	☐	

10. How much additional land does this plant possess in Metro Hamilton, and at what location?

Acreage

Address

11. What is the floor space utilized by the plant including office space?

<1000 S.F.	☐	
1001 - 5000	☐	F.A.
5001 - 10000	☐	
10001 - 20000	☐	
20001 - 30000	☐	
31000 - 40000	☐	
41000 - 50000	☐	
51000 - 100000	☐	
100001 - 500000	☐	
500001 - 1000000	☐	
> 1000000	☐	

12. What are the main products of your plants?

Food and Beverage	☐
Textile and Textile Products	☐
Printing and Allied Industry	☐
Primary Metal	☐
Metal Products	☐
Machinery	☐
Transportation	☐
Electrical Equipment	☐
Non-Metallic Products	☐
Chemical Products	☐
Other	☐

13. What percentage of the plant's market is:

	10	10	20	30	40	50	60	70	80	90	100
Metro Hamilton	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Metro Toronto	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Rest of Ontario	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Outside Ontario	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Outside Canada	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

14. What proportion of the sales of this plant are to:

	10	10	20	30	40	50	60	70	80	90	100
Other Manufacturers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Wholesalers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Retailers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Consumers Directly	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Government	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Building Contractors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

B TRANSPORTATION

15. How many employees bring their cars to work?

Percent

10	10	20	30	40	50	60	70	80	90	100
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

16. What percentage of the employees use automobiles for the journey to work either as a driver or passenger?

10	10	20	30	40	50	60	70	80	90	100
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

17. How many off-street parking spaces are provided?

18. Is the off-street parking provided on this plant site adequate?

Yes ☐
No ☐

19. Is the present transportation system in Hamilton a constraint to the successful operation of this plant?

Yes ☐
No ☐

20. If "Yes", what are the constraints?

Roads

Poor Traffic Control	☐
Poorly Maintained Roads	☐
Inadequate Road Capacity	☐
Poor Access to Provincial Highways	☐
Poor intra-city Traffic Circulation	☐
Traffic Interruptions on Major Roads	☐
Other	☐

Rail

Time-Distance to Rail Facilities ☐
 Inadequate Handling Facilities ☐
 Infrequent Delivery Service ☐
 Other ☐

Harbour

Poor Road and Rail Access to Harbour ☐
 Inadequate Handling Facilities ☐
 Other ☐

21. What percentage of output (processed goods) is transported by the following modes:

	10	10	20	30	40	50	60	70	80	90	100
Truck	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Rail	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ship	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

22. What percentage of your input (raw material) is transported by the following modes:

	10	10	20	30	40	50	60	70	80	90	100
Truck	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Rail	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ship	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

23. How do you rate the transportation accessibility of Hamilton to the following points?

	Good	Fair	Poor
Metro Toronto	☐	☐	☐
Guelph-Kitchener	☐	☐	☐
Brantford	☐	☐	☐
St. Catharines-Niagara	☐	☐	☐

C SITE CONDITION, BUILDING AND FACILITIES

24. What are the advantages of your site?

Adequate Parking ☐
 Proper loading Facilities ☐
 Good Access to Building(s) ☐
 Access to Transportation Systems ☐
 Availability of Space for Expansion ☐
 Good Layout and Control of Industrial Area ☐
 Other ☐

25. What are the disadvantages of your site?

Poor Access to Building(s) ☐
 Shortage of Parking Space ☐
 Inadequate Loading Facilities ☐
 Lack of Space for Expansion ☐
 Conflict with Nearby Land Uses ☐
 Air Pollution or Other Noxious Effects ☐
 Poor Accessibility to Transportation Facilities ☐
 Other ☐

26. Do you own the property?

Site Yes ☐
 No ☐

Building(s) Yes ☐
 No ☐

27. If multi-occupance, what floor(s) is used by the enterprise?

Ground ☐
 First ☐
 Second ☐
 Third ☐

28. Is the physical structure of the plant satisfactory?

Yes ☐
 No ☐

29. If "No", what are the main constraints?

Physical obsolescence ☐
 Functional obsolescence ☐
 Lack of space for expansion ☐
 Other ☐

D HISTORICAL DATA AND ATTITUDE REGARDING LOCATION FACTORS

30. When did your plant open in Hamilton?

After 1965 ☐
 1961 - 1965 ☐
 1956 - 1960 ☐
 1951 - 1955 ☐
 1940 - 1950 ☐
 Before 1940 ☐

21. What were the main reasons for locating in Hamilton?

Fair Taxes ☐
 Harbour ☐
 Labour Cost ☐
 Industrial Climate ☐
 Municipal Services ☐
 Community Factors ☐
 Proximity to Markets ☐
 Availability of Labour ☐
 Founder of Local Origin ☐
 Local Sources of Finance ☐
 Zoning, other regulations ☐

32. What are the main advantages of a Hamilton location? (5 or less)

Taxes	☐
Municipal Services	☐
Community Relations	☐
Proximity to markets	☐
Proximity to materials	☐
Transportation Facilities	☐
Ambitious Industrial Promotion	☐
Community Factors - University etc.	☐
Labour - Productivity, Skills, Supply	☐
Ancillary Industrial, Manufacturing Services	☐
Established here, Services and Product known here	☐
Other	☐

33. What are the main disadvantages of a Hamilton location? (5 or less)

Taxes	☐
Labour Costs	☐
No room for expansion	☐
Distance from Markets	☐
Distance from Materials	☐
Transportation Facilities	☐
Bad Community Relations	☐
Dominance of Steel Industry	☐
Pressure of Organized Labour	☐
Pollution, Noxious Effects	☐
Other	☐

34. If you were looking for a location for plant of this kind, what would be the (five or less) factors you would regard as most important?

Taxes	☐
Size of town	☐
Housing Supply	☐
Marketing Facilities	☐
Recreation Facilities	☐
Municipal Services	☐
Distance to Materials	☐
Productivity of Workers	☐
Schools and Playgrounds	☐
Attitude toward Industry	☐
Cost of Land	☐
Zoning and Other Regulations	☐
Availability of Labour Supply	☐
Transportation Facilities to Materials	☐
Distance to Customers (Transportation Cost)	☐
Distance to Customers (because of speed of servicing)	☐

E INDUSTRIAL MOBILITY - PLANS, EXPECTATIONS

35. Is there a likelihood of this plant being relocated?

Yes	☐
No	☐

36. If "Yes", when?

1 year	☐
2 years	☐
3 years	☐
4 years	☐
5 years	☐
> 5 years	☐

37. Where to?

City of Hamilton	☐	
Metro Hamilton	☐	
Metro Toronto	☐	
Other City	☐	
Small Town	☐	
Rural Area	☐	
Other	☐	

38. What are the advantages of the new location?

Taxes	☐
Labour Supply	☐
Labour Productivity	☐
Municipal Services	☐
Proximity to Market	☐
Space for Expansion	☐
Good Access to Site	☐
Good Transportation System	☐
Government Relocation Subsidies	☐
Prestige Building and Location	☐
Properly Developed Industrial Area	☐
No Air Pollution or Noxious Influences	☐
Other	☐

39. Are there any plans for the expansion of this plant, such as large increases in machinery or additional buildings?

Yes ☐
No ☐

40. What are the reasons for expansion?

Growth in Production	☐
Diversification of Products	☐
Innovation of Processes (Automation)	☐
Other	☐

41. If nearby lands, presently zoned and used for purposes other than industrial, were zoned industrial would this effect your expansion plans?

Yes ☐
No ☐

42. If "Yes", what are the main reasons?

Provide more Parking	☐
Redesigning of Plant Layout	☐
Elimination of incompatible uses	☐
Facilitate expansion of production	☐
Other	☐

43. If "No", what are the main reasons?

Expense of land	☐
Difficulty of land assembly	☐
Advantages of Suburban Sites	☐
Other	☐

QUESTIONNAIRE ADDENDUM

In the course of performing the survey additional answers were added to the questions recorded below:

24. What are the advantages of your site?

Proximity to other Manufacturers
Accessibility to Labour
Proximity to Services
Central Location
Land Cost

25. What are the disadvantages of your site?

Land Cost

33. What are the main disadvantages of a Hamilton Location?

Community Factors
Cost of Land
Image

34. If you were looking for a location for a plant of this kind, what would be the five or less factors you would regard as most important.

Transportation Accessibility
Proximity to Raw Materials
Clean Environment

HAMILTON PUBLIC LIBRARY



3 2022 21335691 4

